

Fig.1

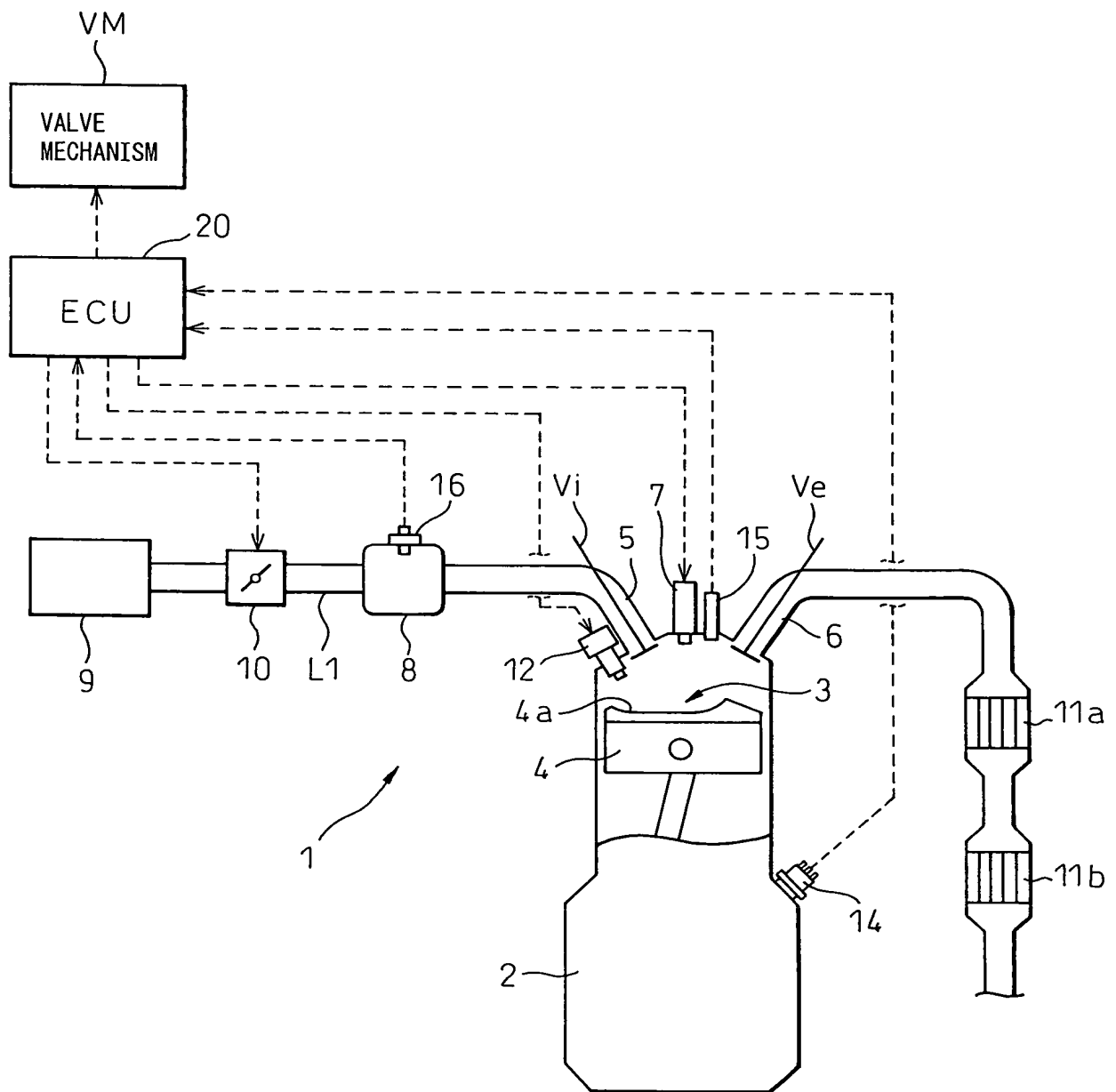


Fig.2

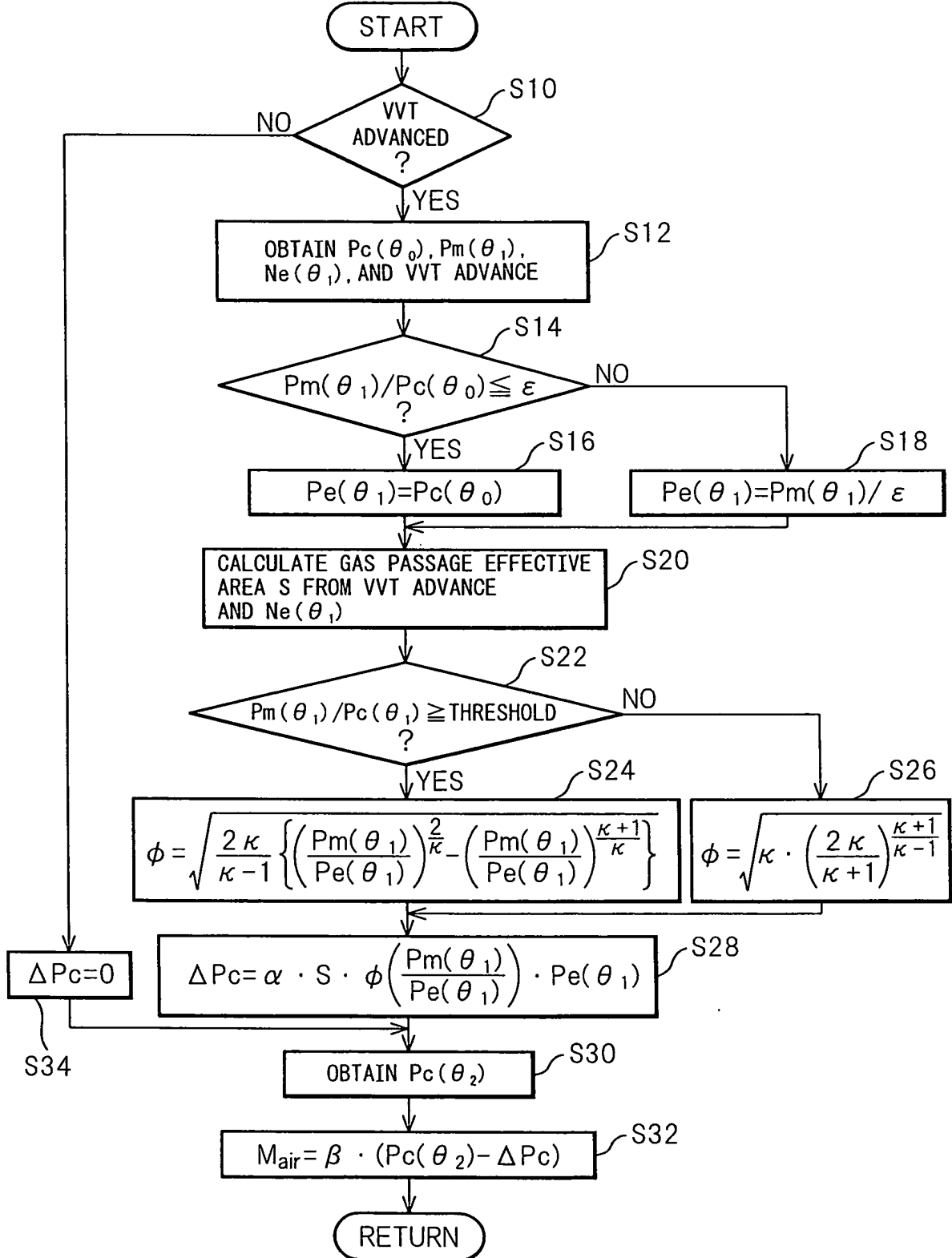


Fig.3

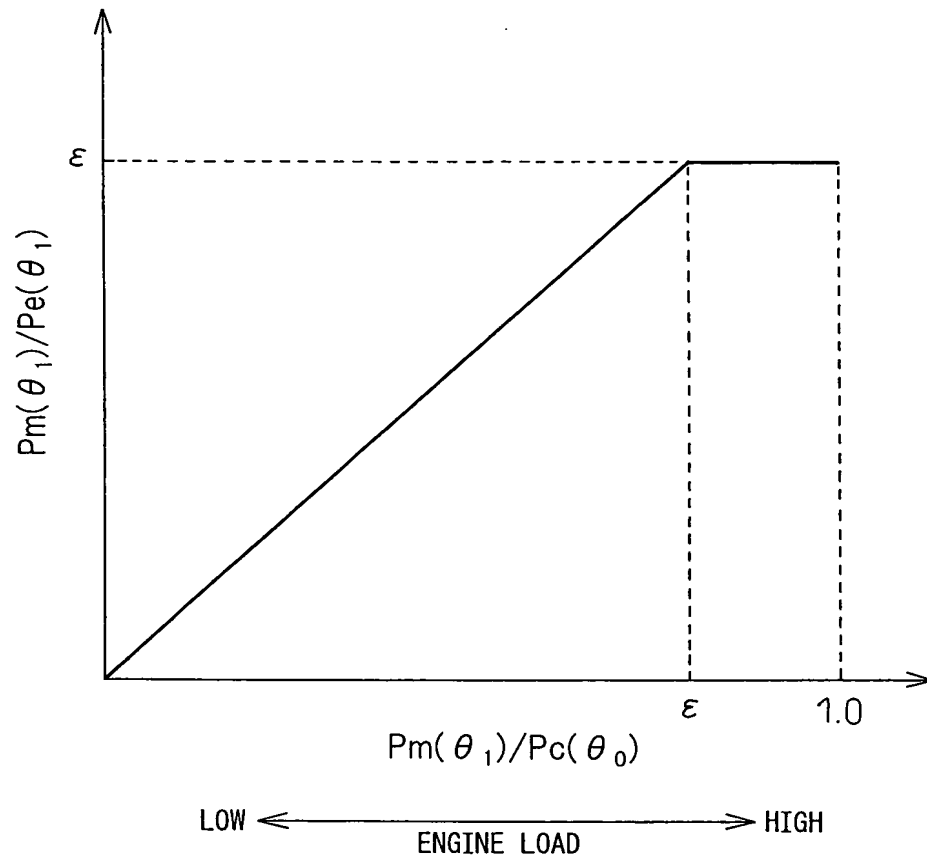


Fig.4

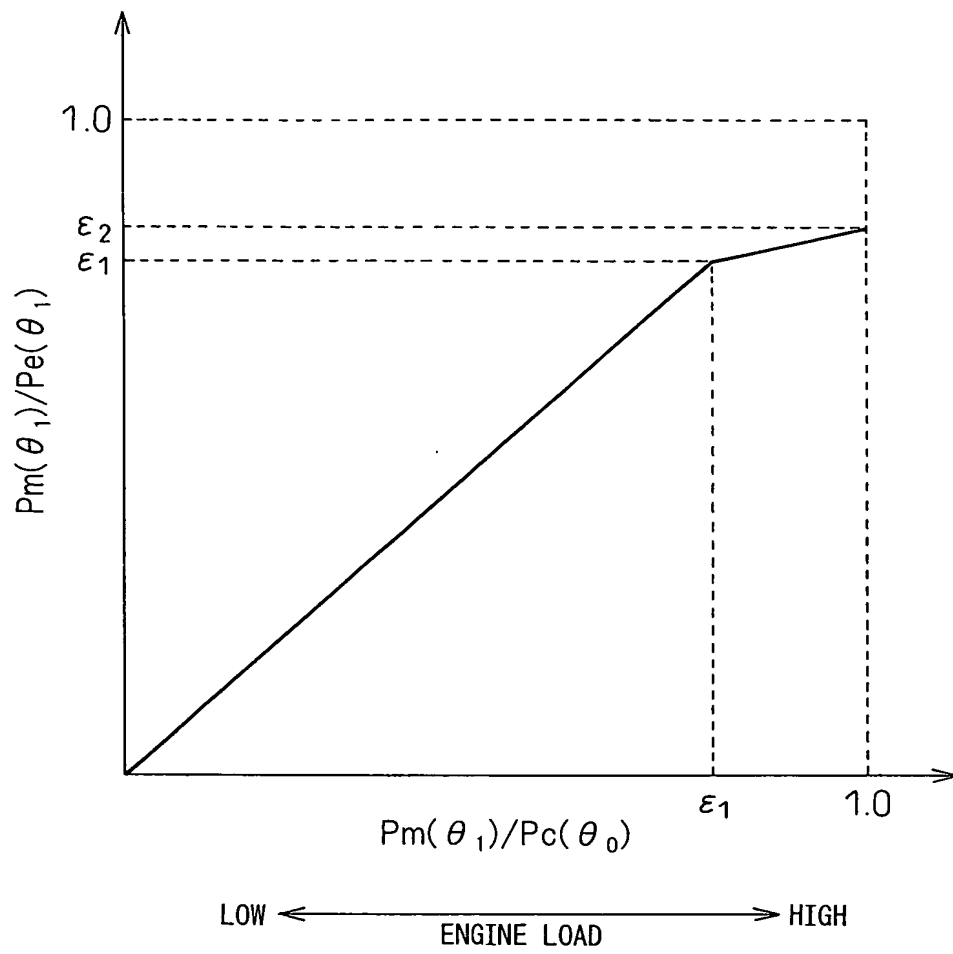


Fig.5

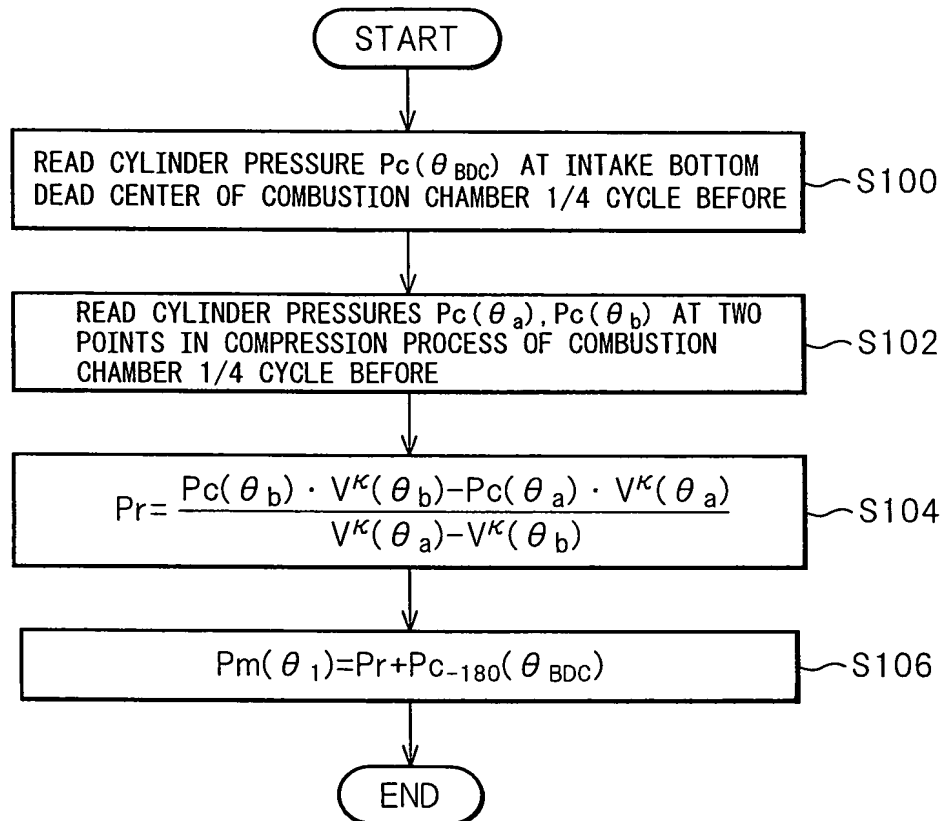


Fig.6

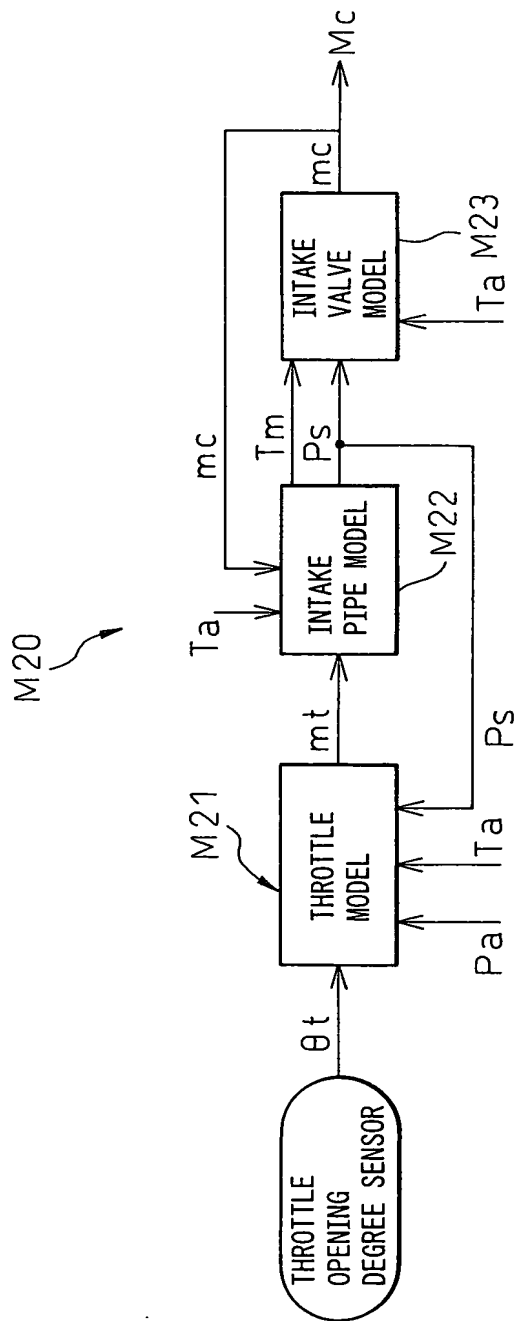


Fig.7

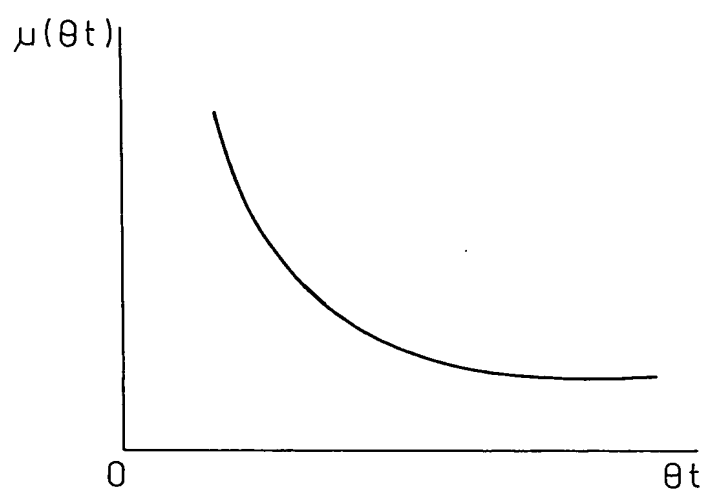


Fig.8

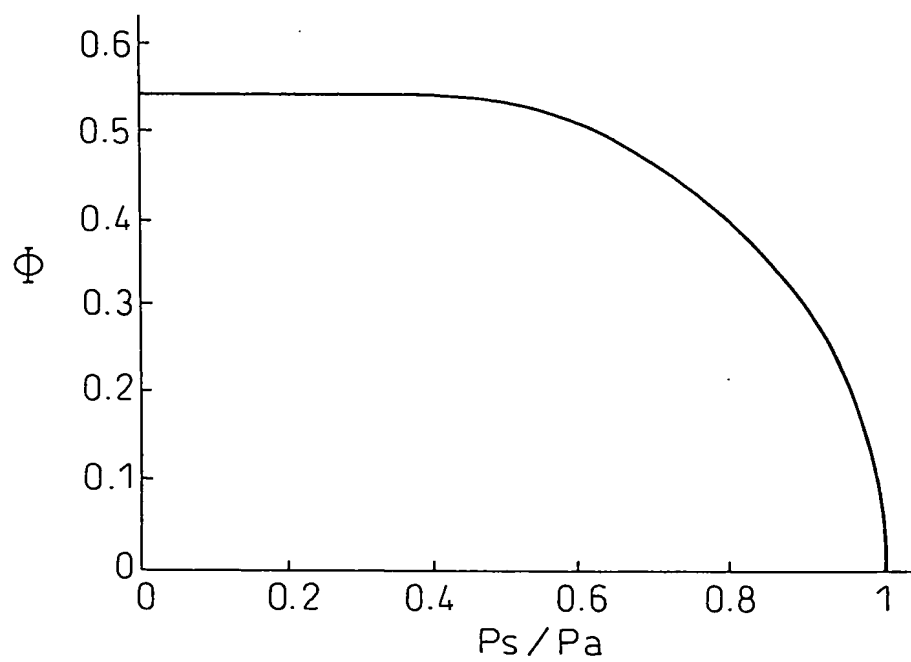


Fig.9

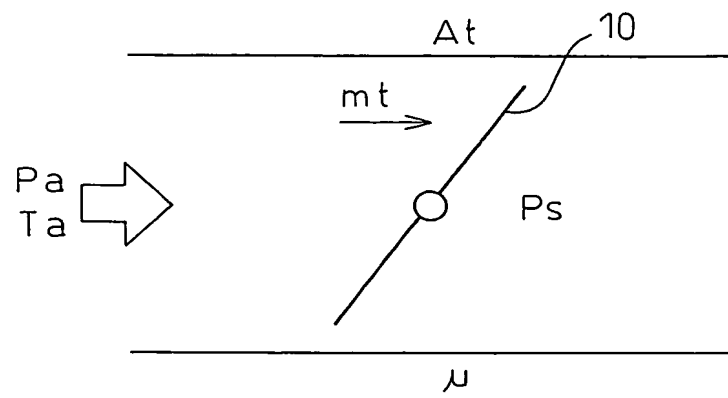


Fig.10

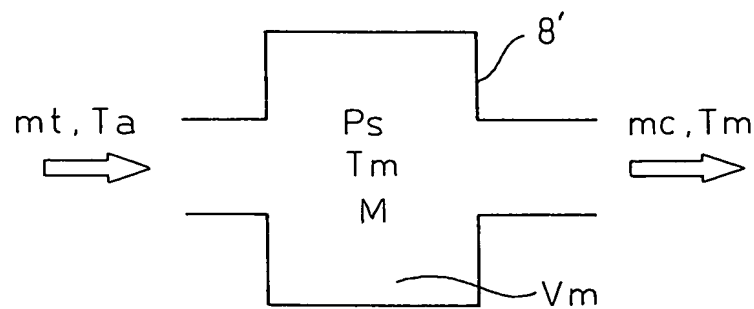




Fig.11

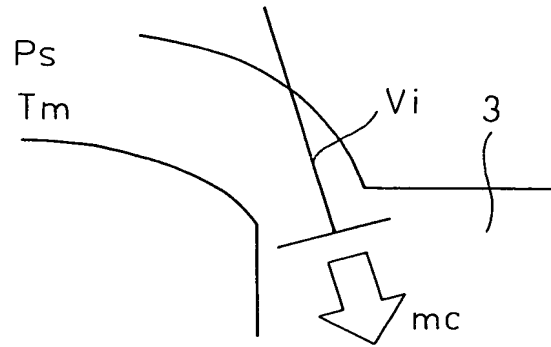


Fig.12

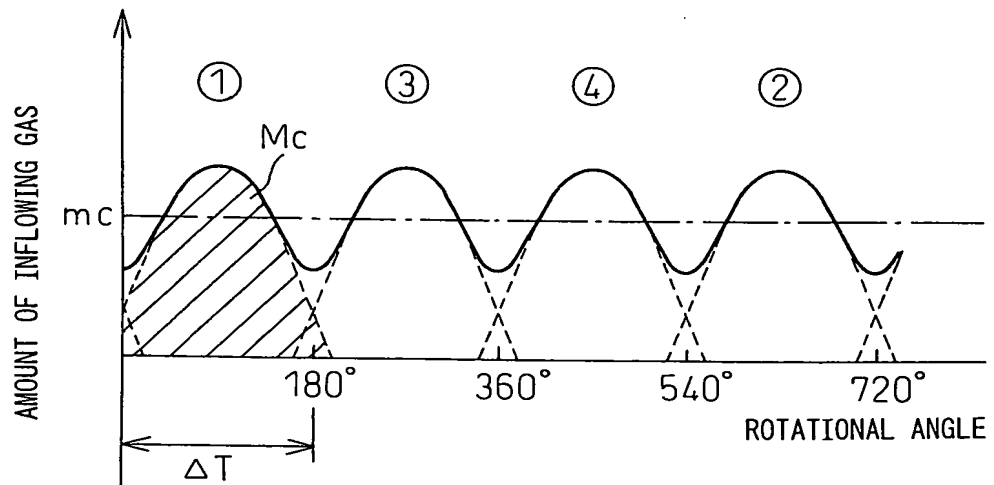
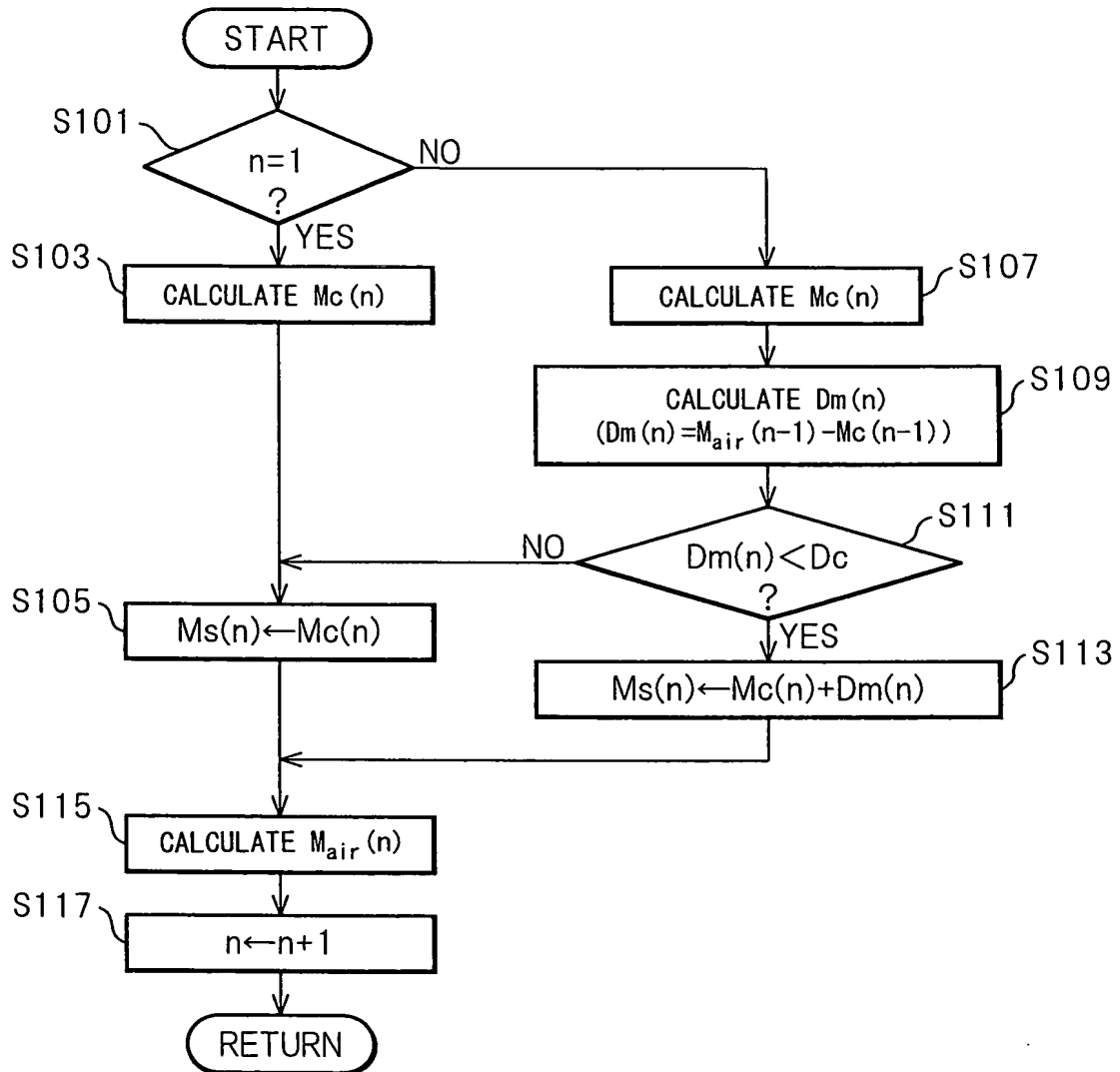


Fig.13



## DESCRIPTION OF NOTATIONS

- 1. internal combustion engine
- 3. combustion chamber
- 14. crank angle sensor
- 15. cylinder pressure sensor
- 16. intake pressure sensor
- 20. ECU
- Ve. exhaust valve
- Vi. intake valve
- VM. valve mechanism